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Colorado GLCI Technical Note 1

Colorado Grazing Lands Conservation Initiative

Restocking Strategies Following Drought

Your rangeland has suffered a tremendous setback due to the last two to three years of drought. Listed below are some ideas to help you think about ways to help speed the recovery of your rangeland. The better care you take of your basic resource on the range—grass—the more sustainable it will be for future generations.

The Current Situation

Parts of Colorado are in their fourth year of drought. During two out of the last three years—2000 and 2002—the drought was severe.

Ranchers either sold or moved record numbers of livestock to other states for grazing. In fact, Colorado has seen a 50-60% decrease in stock cows in the past year.

Many stock wells and ponds have gone dry.

According to Nolan Doesken, Colorado Assistant State Climatologist, the 2002 drought was the most widespread drought ever in Colorado.

Why Is This Important to You, a Colorado Rancher?

Drought Ridden Rangeland

The current drought is jeopardizing the integrity of rangeland resources in addition to having negative economic impacts on the well being of Colorado ranches and rural communities. This publication will focus on the rangeland resources.

Ecological Consequences of the Drought

Expect major reductions in the forage available and changes in the plant communities on your rangeland. The drought has caused a decrease in the production from cool season grasses, such as western wheatgrass, green needlegrass, and needleandthread, and even some death loss in these grasses. On loamy ecological sites in Eastern Colorado as much as 50-60% of cool season grasses are projected to have been lost and perhaps as much as 20% of the blue grama.

The loss of vegetation and insufficient ground cover could result in runoff, severe erosion, and flooding problems if areas have high intensity rain storms.

Healthy Riparian Area

Unhealthy Riparian Area

Riparian areas have lost desirable sedges and rushes resulting in a shift to sod forming buffalo and blue grama grass. The result is non-functioning and unhealthy riparian areas. In addition, these areas have been degraded due to the decrease in the water table over the entire landscape.

Animal performance, both livestock and wildlife, has decreased due to the poor condition of the rangeland.

Plant Community Changes

Since many areas did not have plant or forage growth in 2002, the result will be little or no residual forage being carried forward into 2003. Therefore, the amount of bare ground has increased dramatically and will continue to have inadequate cover to manage water.

The change in the plant community may be major due to high levels of plant use in 2002. Because the majority of the rangeland currently has grasses and other plants that are severely stressed, the forage quantity and quality have been significantly reduced. This will mean decreased animal performance if stocking rates aren't seriously reduced.

Expect plant mortality to be high because of severe plant stresses in 2002 and because of heavy grazing use and little opportunity for the plants to grow with little or no recovery. Plant stress is expected to continue into the 2003 growing season.

All of this adds up to major alterations to the rangeland plant community composition. The bottom line is lower forage quantity and quality.

Animal Performance

In many cases, ranchers have noted a marked reduction in animal performance. Calf gains in 2002 were off by as much as 50 to 60 pounds. The exception to this is if ranchers made timely adjustments in their stocking rate. For 2003 growing season, expect poisonous plants to be a problem which in turn will have negative impacts on the performance of livestock.

<u>Road to Recovery</u>

Don't expect to recover in 2003. Plant performance will still be poor this year even if Colorado receives adequate or "normal" moisture. If the drought continues or we have lower than "normal" moisture, expect the situation to be worse.

Stock appropriately, which means stock according to the expected plant availability and to enhance plant maintenance and recovery. Remember, your "real or actual" stocking rate is the forage demand relative to the amount of forage on offer. To create a road to recovery post-drought, a conservative stocking rate for most of Eastern Colorado would range from 50 to 80 acres per animal unit per year. Contact your local US Department of Agriculture Natural Resources Conservation Service office or Colorado State University Cooperative Extension Office for help in determining a potential post-drought stocking rate for your rangeland.

Restocking is a Stocking Rate Decision

If you sold or moved stock for grazing during 2002, don't plan on returning them to your rangeland, or restocking, in 2003. If you did not adjust your stocking rate in 2002, plan on doing so now.

If winter moisture is good in your area; you didn't try to use the brief and meager amount of growth last fall; and you were timely in adjusting your stocking rate; then you may be able to stock at no more than 30-50% of the "regular" carrying capacity of your rangeland for 2003. In 2004, plan on being at no more than 50-70% of the carrying capacity of your rangeland.

Depending on what happens in future years, what timely decisions you made, your post-drought management, then full recovery may be a minimum of three years or forever down the road. A conservative stocking rate is better for rangeland health and sustainability.

This publication was developed from a presentation developed by Dr. Roy Roath, Extension Range Specialist, CSU Cooperative Extension. Other contributors include the Colorado Grazing Lands Conservation Initiative Committee and USDA Natural Resources Conservation Service.